

ESTABLISHMENT OF A UNIVERSITY OF HAWAII ENVIRONMENTAL CENTER

By
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Executive Committee, Ecology and Man Committee

This memorandum is written in response to your request for an expansion of the 4 June 1970 recommendation by Bruce Etherington, former chairman of the Executive Committee of the Ecology and Man Committee that an Environmental Center be established by the University of Hawaii. Limitations of time, and the absence of several members of the Executive Committee, have prevented the preparation of a joint response, but the action recommended has been the subject of intense study by the Executive Committee during the past year and, by drawing its records and its reports to the parent Committee and other bodies, I can be certain that there would be general agreement with the expressions herein.

The general concern for the environment

Knowledgeable people everywhere are now concerned about the degradation of the environment that has resulted from the existence, increase, and activity of their own species. Most widely felt is a concern for the environmental effects of human wastes, both biological and technological. However, students of natural resources find reason for concern also in the effects of our draft of critical raw materials from the environment and in the interactions between raw material draft and waste disposal.

As is now generally recognized, the rates of raw material draft and waste disposal are related to both population and standard of living. It must be recognized also, however, that these rates may in addition be influenced by cultural orientation. The enormous but not inexhaustible storage capacities of nature and the resulting long lags between human actions and their ultimate environmental consequences have permitted the development of an assumption that selected material aspects of human welfare could be increased without environmental detriments either to other material aspects or to esthetic aspects. The appearance of success thus achieved by technological development under a philosophy of opposition between man and nature is just beginning to crack but it is already obvious

that substantial deleterious environmental changes are underway. A more ecological philosophy, a tradeoff of material aspects of standard of living for esthetic aspects, an orientation toward conservation rather than exploitation, would considerably reduce detrimental environmental effects.

Although there has been some irrational emotionalism in the expression of environmental concerns, a lack of concern is equally irrational. It is not clear how large a world population may be accommodated with any particular standard of living and cultural orientation. It is quite certain, however, that the present trends in population and standard of living cannot continue. How the limitations will become manifest is to some extent within the range of human choice. With adequate knowledge and the will to use it -- with wisdom -- the future of mankind may be a pleasant one. Without such wisdom, the future will be at best rather unpleasant and quite conceivably severely curtailed.

Hawaiian concerns

Hawaiians are unavoidably involved with world-wide environmental problems but have special reasons for concern with their immediate environment. In its mid-oceanic location Hawaii is relatively isolated from the effects of waste disposal elsewhere in the world, and comparatively few drains are made on its non-renewable resources. The agricultural pursuits that were until recently the principal base for the Hawaiian economy were in general conservative of the environment. The Islands have, however, not been immune to the effects of increases in population and standard of living. Accelerations in the rates of increase have now resulted in readily recognized problems, while at the same time increasing economic reliance on tourism associates the potential of particularly serious economic losses with such problems. Because of ecological and socio-economic peculiarities associated with the geographic historical and setting of the Islands, special local solutions will have to be provided for these problems.

Recognizing the importance of environmental concerns in Hawaii, the 1970 legislature has passed and the governor has signed a bill (SB 1132-70) that adds to the statutes of the state a new chapter on "Environmental Quality Control" whose findings and purpose are stated as follows:

"The legislature finds that the quality of the environment is as important to the welfare of the people of Hawaii as the economy of the State. The legislature further finds that the delimitation of an optimum balance between economic development and environmental quality deserves the most thoughtful consideration, and that the maintenance of the optimum quality of the environment deserves the most intensive care."

The new act calls for the creation of an Office of Environmental Quality Control within the Office of the Governor to be headed by a Director of Environmental Quality Control, an Environmental Council to provide liaison between the Director and the public, and an ecology or environmental center within the University.

The role of the University

The University has or should have a substantial role with regard to many phases of the identification, diagnosis, and solution of environmental problems.

Research is quite clearly involved, because in very large part the problems arise from lack of understanding of the environment, the natural ecological principles operative in it, technological effects and social responses to environmental change.

Instruction of several kinds must be involved:

- a) Graduate instruction: for professional service in environmental disciplines.
- b) Undergraduate instruction:
 - i) for professional and subprofessional environmental services
 - ii) for managerial services in enterprises affecting or affected by the environment
 - iii) liberal education of the influential electorate to cope with the future environmental decision making.
- c) Community colleges:
 - i) possible technical training
 - ii) liberal education of the electorate.
- d) College of education: education of educators of generations capable of facing the more difficult environmental decisions of the future.
- e) General education:
 - i) professional and technical retraining
 - ii) further education of the electorate.

Public service must be involved in assuring, so far as possible, that all pertinent knowledge is brought to bear on environmental problems.

Many kinds of disciplines are involved, including:

- a) Natural sciences: the natural environment and ecological principles.
- b) Applied sciences such as those of engineering, architecture, and agriculture: technology pertinent to natural resources development and conservation.
- c) Medical sciences: environmental effects on human health.
- d) Social sciences: economic and sociological effects of environmental changes, perception of environmental problems, institutional means for achieving and controlling change.

- e) Humanities: human goals in relation to the control of environmental change and the balance of material and non-material aspects of welfare.
- f) Travel industry management: the importance of environmental concerns to a tourist industry.

The faculty must be involved because of their competence in technical and professional matters. The students must be involved because of their greater expectancies of life in the consequences of current environmental decisions.

With respect to specific environmental concerns, the University has had for some time a few strong programs, for example, those dealing with agriculture, land use, fisheries, water resources, tsunamis. In the past year, a number of courses having to do with the environment, conservation, and pollution have appeared scattered through several departments. Suggestions have been made from both the College of Tropical Agriculture and the College of Engineering that they broaden their areas of responsibility to include environmental concerns more generally. A new "Survival College" has been proposed, and an ecology college has been suggested as a component of the planned new Oahu campus. The Architecture Department proposes to expand its competence into Environmental Design, and a Pacific Urban Studies and Planning Program has begun.

The proliferation of environmental courses, projects, and programs is an indication of the widespread and intense extent of interest in environmental concerns, but not of concerted planning. In spite of the proliferation and a good deal of apparent overlap there are some major areas in which only spotty, inadequate efforts have been made, of which air pollution is perhaps the major example.

The tendency of universities to restrict themselves to matters of principle rather than practice, simplified problems that can be handled within the framework of a single discipline, has been vigorously opposed in recent years by those proclaiming the need for "relevance". As a matter of fact, relevance to practical problems has always been an expressed goal of land-grant colleges. Since the founding of the College of Hawaii, training has been offered in the fields of agriculture and engineering that are now represented by professional colleges in the University of Hawaii. According to the Academic Development plan II (p. 89), ". . . in the tradition of land-grant universities, this institution concerns itself with research which promises to contribute significantly to the development of the State." Public service is regarded as one of the regular functions of the University and according to ADP II (p. 15) ". . . service begins at home. The primary responsibility of the University of Hawaii and of each of its constituent units is to serve the people of Hawaii."

A beginning toward coordination of environmental concerns in the University has been provided by the Ecology and Man Committee established under the Graduate Division by Dean Wytze Gorter in June 1969, as a result

of recommendations stemming originally from an April 1969 ASUH Symposium of "Technology's Impact--the Pacific Environment". During the past year this Committee, through its executive committee or special ad hoc subcommittee has:

- a) Prepared a catalog of the environmental interest and capabilities of Manoa campus faculty, departments, institutes, courses, and research programs.
- b) Prepared testimony for State House and Senate Committees relating to a large number of bills with environmental aims.
- c) Advised representatives of the State administration and the legislature on appropriate means for organizing for environmental quality control.

The way is now clear for the University to further significantly the stimulation and coordination of its efforts with respect to understanding the environment and coping with environmental problems by the establishment of an Environmental Center as recommended by the Ecology and Man Committee and as authorized by the Environmental Quality Control Act.

Establishment of the Center

Concerning the Environmental Center, the Environmental Quality Control Act specifies (Sec. 5):

"(a) The center shall be so constituted as to make most effective the contribution of the university to the problems of determining and maintaining optimum environmental quality. Its membership shall be comprised of those members of the university community actively concerned with ecological and environmental problems.

"(b) The functions of the center shall be to stimulate, expand, and coordinate education, research, and service efforts of the university related to ecological relationships, natural resources, and environmental quality, with special relation to human needs and social institutions, particularly with regard to the State."

The Act further specifies (Sec. 4) that the Director of Environmental Quality Control shall:

"(1) Direct the attention of the university community . . . to ecological and environmental problems through the center. . ." and

"(3) Conduct research or arrange for the conduct of research through contractual relations with the center. . ." etc.

The Act makes an appropriation to further its objectives, from whose total amount "\$73,000 shall be expended by the University of Hawaii ecology or environmental center in accordance with a yearly contract, the terms and

provisions of which shall be mutually agreed upon by the director of Environmental Quality Control and the president of the University of Hawaii."

As a token of its autonomous intent, the University should establish the Environmental Center as soon as possible, without waiting for the negotiation of a contract with the Office of Environmental Quality Control.

Considering the range of functions, disciplines, and people that should be involved in its program it would be a mistake either to subordinate the Environmental Center to any single college or to attempt to create it as a unit duplicative of competence in the colleges. The Center should be established in the central administration of the University, responsible to the Vice-President for Academic Affairs, where it can take advantage of pertinent competence wherever it exists in the University.

The Center should not have budgeted to it any academic faculty except as necessary to provide for its administration, and as may possibly be found necessary in the future to provide for the rare interdisciplinarian whose professional advancement would not be adequate in any department. Rather the Center should include in its faculty membership all members of the academic faculty of the University who wish to be included and are considered by its faculty to be sufficiently concerned with and competent in some phase of environmental matters. Substantial involvement in any Center program should necessitate approval also of the chairman of the department or other unit in which the faculty member is budgeted.

Initially the faculty membership of the Center should be those listed in the environmental catalog compiled by the Ecology and Man Committee who are on duty during the Fall semester 1970. Although its program will thus be confined initially to the Manoa campus, it should expeditiously be expanded to all of the campuses of the University, including those of the community colleges, so that it may relate most effectively to problems arising in all parts of the islands.

The Center should be administered by a Coordinator to be named by the President, who shall be budgeted at least half time in the Center. The Coordinator should be advised and assisted by a Policy Committee of at least five faculty and two student members to be named by the President after consultation with the Coordinator. Means should be provided for soliciting nominations from the faculty of the Center for faculty appointments to the Policy Committee, and the selection shall be such as to be broadly representative of disciplines and colleges involved in the program. Appointments to the Policy Committee should be for a year, renewable for the sake of continuity. Initial members of the Policy Committee should be named from members of the Policy Committee of the Ecology and Man program.

Insofar as possible, the Center should arrange with instructional departments for the offering of courses dealing with the environment. It should, however, be empowered to establish under its own organization such courses as are so interdisciplinary in nature as not to be appropriately taught within any department. Very likely one or more seminars of the

latter sort will be desirable. Formal courses, whether experimental or permanent, should be subject to the normal University review procedures.

Insofar as possible, the Center should arrange with appropriate departments or research units for the conduct of such research as it considers desirable. It should, however, be empowered to administer, itself, such research projects as do not fall principally within the mission of any department or research unit. For this purpose, the Center must be able to employ technical and professional personnel other than academic faculty, and academic faculty on overload. In its negotiation for research grants and contracts and its administration of research it should be responsible to the Office of Research Administration.

Some of the most important functions of the Environmental Center will be certain kinds of public service. On the request of the Director of Environmental Quality Control, as prescribed in the Environmental Quality Control Act, on the request of government officials or legislators, and on occasion on its own initiative as a result of research or otherwise, it may be appropriate for the Center to prepare a statement on some environmental problem representing the consensus of those of its faculty having competence bearing on that problem.

A statement prepared under the auspices of the Center in this way should generally merit greater consideration than a statement prepared on a purely personal basis. However, except as the University as an institution has some responsibility in the matter and as the statement is duly approved by the University administration, such a statement cannot be regarded as representing an institutional position of the University. The Center should assure that, so far as possible: a) competence pertinent to all significant aspects of a problem be involved in the preparation of such a statement on the problem; b) limitations of competence and limitations of data be identified; c) inter-disciplinary divergences of opinion on the problem, after resolution so far as possible, be expressed; d) goals and values approved be recognized; and e) any statement so prepared be adequately reviewed. No control on the issuance of statements on behalf of the Center should affect the academic freedom of its faculty members in the expression of their personal opinions.

The Center must be provided with adequate secretarial, clerical, and editorial staff, which may include civil service, APT, and student help. Because of the widespread nature of the program, good communication will be essential, probably involving a newsletter, and the secretarial help must be highly qualified.

Faculty members of the Center will in general be housed with their departments rather than in Center headquarters, but the Center will need adequate space for its administrative offices, a reading room, and a conference room. Additional space may be needed in the future depending on the appointment of interdisciplinary faculty or the direct undertaking of research programs.

Pending the receipt of the contract to be negotiated with the Director of Environmental Quality Control the program of the Environmental Center should be underwritten and initially supported from the regular appropriation to the University in accordance with one of the following alternatives, listed in decreasing order of desirability:

- a) support at the full level provided under the Environmental Quality Control Act (\$73,000/annum);
- b) support for the basic administrative functions but not special projects (approx. \$45,000/annum);
- c) support for a secretary and minimum operating funds (approx. \$15,000/annum);
- d) minimum operating funds (approx. \$5,000/annum).

Budgets for the Center should be prepared for the biennium 1971-73 as part of the budgets of the University, at least with respect to basic salaries and operating expenses. Reliance on contract support from the Office of Environmental Quality Control may perhaps be satisfactory for major projects, but the Center should not be dependent on the Office of Environmental Quality Control for the support of its continuing operation and seed money for pilot research.

Any program as novel as this must be regarded initially as an experiment. It is quite probable that some changes will appear desirable after a year's experience. Although there has been wide faculty participation in the general planning under the Ecology and Man Committee, the details of organization here presented have not been widely reviewed. The program has been discussed informally with the University Senate Executive Committee but not formally reviewed as one competitive for future University funding should be. Hence the Environmental Center should be established initially on a trial basis. Its organization and operation should be briefly reviewed prior to University approval of its budget request for 1970-71, and more thoroughly in the fall of 1971 after the experience of a year of operation prior to University approval of its budget for 1972-73.

Recommendations

For the reasons discussed above, I recommend that the University of Hawaii act now to establish an Environmental Center with the organization, responsibilities and character described.

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